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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,186	04/14/2004	Thomas Jochen Schwalbe	CELL0034	5903

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EXAMINER

LEVKOVICH, NATALIA A

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/824,186	SCHWALBE ET AL.	
	Examiner	Art Unit	
	Natalia Levkovich	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 14-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) 1-34 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/27/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-13, drawn to an automated reaction system for continuously performing a plurality of optimization experiments, classified in class 422, subclasses 62 and 130.
 - II. Claims 14-34, drawn to method of optimizing reaction parameters, classified in class 436, subclass 34.
2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the automated reaction system can be employed for performing a variety of chemical reactions and the method can be used with automated systems not comprising some elements of the inventive system, for example, not having a dilution pump.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversations with Mr. Ronald Anderson on 12/16/04 and Mr. Michael King on 12/17/04 a provisional election was made with preservation of traverse to

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prosecute the invention of Group I, claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-34 were withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8 are rejected under 35 U.S.C. 102(b) as anticipated by Bard (USP 5,580,523).

Bard teaches a modular reactor system “for continuously synthesizing chemical compounds under controlled and regulated reaction conditions” having “interchangeable microreactors, that can be used in tandem [parallel-examiner], series, or individually...” The system “can be monitored to regulate the reaction process and/or create an optimal environment for the synthesis” and is designed “for continuous flow operation” and “to optimize control of residence time within a reaction zone”. (Col.1, lines 5-10; col. 2, line 35).

The system components also comprise “fluid flow handling and control components, mixers,... reaction ... units,... separatory devices, ... process variable detectors and controllers; and ... a computer interface for communicating with a master control center.”

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“The flow control components ... can include pumps, flow channels, manifolds, flow restrictors, valves, etc. These components will have the necessary fittings that allow them to be sealed with the pre-arranged or selectively located flow channels or connectors. The flow system can also include detachable mixing devices... The detachable reaction units...can be of the thermal, electrochemical, photochemical, pressure type and be rectangular or cylindrical in shape”.

“The ... system can also include a detachable separation chamber, and an analyzer capable of monitoring and/or controlling a process variable...The detectors can include electrochemical, spectroscopic or fluorescence based detectors to monitor the reactants, intermediates, or final products” (Col.4, lines 25-60).

For example, “the system of Figure 4 operates as follows: reagents A and B via pressure actuated pumps P.sub.A and P.sub.B, and valves V.sub.A and V.sub.B sequentially or simultaneously flow to the mixer M.sub.X. If isolation of a reagent is necessary, after reagent A is fed to mixer M.sub.X and discharged to the reactor R.sub.1, a wash fluid W is conveyed via pump P.sub.W and valve V.sub.W to the mixer M.sub.X and discharged. Signals from detectors D.sub.1, D.sub.2, thermocouple TC, and flowmeter FM are transmitted to the computer through interface 90 to control the flow of reagents A and B and temperature, or any additional reagents according to the process to be performed by the subject invention”(Col.7, lines 10-15).

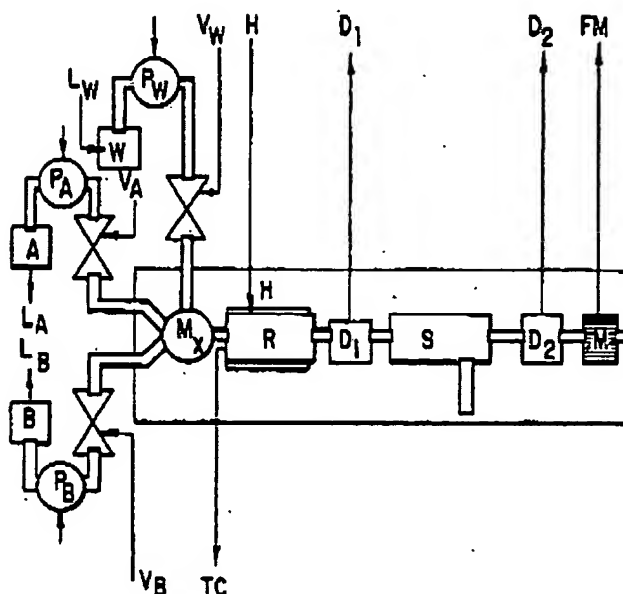


FIG. 4

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bard (USP 5,580,523) in view of Dasgupta et al. (PGPUB 20020151080).

Bard does not teaches monitoring reaction parameters according to periodic pattern.

Dasgupta discloses “c ontinuous on-line titrations based on feedback-controlled flow and the principle of compensating errors are carried out in a titration system by maintaining a constant total flow of mixed sample and titrant. The flow of the titrant is varied in response to a controller output voltage, and accordingly...”(Abstract).

“The titrant flow is initially ramped upward in accordance with a preselected flow rate pattern. At the instant a change in a selected property of the mixed stream is sensed by the detector, the actual titrant flow rate ... (which is produced by the upwardly ramping flow control signal) is higher than the true equivalence flow rate ... because of the lag time between the occurrence of the first property change and its detection. The sensing of the change in property is used to cause the system controller output to immediately reverse its ramp direction so that the titrant flow is ramped downwardly in accordance with the same flow rate pattern” [0015]. The “invention is not limited to a particular controller output pattern, or wave shape”[0054], as well as more than one parameter can be monitored in accordance with varying patterns (see page 8, claims 11-15).


Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a controller monitoring reaction parameters according to periodic patterns as one of the approaches to optimizing and continuously monitoring parameters of an automated reaction system of Bard.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Levkovich whose telephone number is 571-272-2462. The examiner can normally be reached on Mon-Fri, 8 a.m.-4p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill Warden
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Technology Center 1700